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ABSTRACT

The report describes the Job Diagnostic Survey (JDS), an instrument designed to measure the following classes of variables: (1) objective job characteristics, particularly the degree to which jobs are designed so that they enhance work motivation and job satisfaction; (2) personnel affective reactions of individuals to their jobs and work setting; (3) the readiness of individuals to respond positively to "enriched" jobs--jobs with high potential for generating internal work motivation. Based on a specific theory of how jobs affect employee motivation, the JDS is intended to: (1) diagnose existing jobs to determine if (and how) redesigning could improve employee productivity and satisfaction; and (2) evaluate the effect of job changes on employees--whether the changes derive from deliberate "job enrichment" projects or from naturally occurring modifications of technology or work systems. The JDS has gone through three cycles of revision and pre-testing. Reliability and validity data are summarized for 658 employees in 62 different jobs in seven organizations who have responded to the revised instrument. Two supplementary instruments are also described: (1) a rating form for assessing "target" jobs; and (2) a short form of the JDS. All instruments and scoring keys are appended. (Author/MW)

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THE JOB DIAGNOSTIC SURVEY: AN INSTRUMENT FOR THE DIAGNOSIS OF JOBS AND THE EVALUATION OF JOB REDESIGN PROJECTS

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Abstract

This report describes the Job Diagnostic Survey (JDS), an instrument designed to measure the following three classes of variables:

1. The objective characteristics of jobs, particularly the degree to which jobs are designed so that they enhance the internal work motivation and the job satisfaction of people who do them.

2. The personal affective reactions of individuals to their jobs and to the broader work setting.

3 The readiness of individuals to respond positively to 'enriched' jobs--i.e., jobs which have high measured potential for generating internal work motivation.

The JDS is based on a specific theory of how jobs affect employee motivation. It is intended for two general types of use: (a) for diagnosing existing jobs to determine if (and how) they might be redesigned to improve employee productivity and satisfaction; and (b) for evaluating the effect of job changes on employees--whether the changes derive from deliberate "job enrichment" projects or from naturally-occurring modifications of technology or work systems.

The JDS has gone through three cycles of revision and pre-testing. Reliability and validity data are summarized for 658 employees on 62 different jobs in seven organizations who have responded to the revised instrument.

Two supplementary instruments also are described: (a) a rating form for use by supervisors or outside observers in assessing "target" jobs, and (b) a short form of the JDS. All instruments and scoring keys are appended.

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As both organizational productivity and employee alienation from work become increasingly problematic in contemporary American society, more and more organizations are turning to the redesign of work as a strategy for organizational change (cf., Davis & Taylor, 1972; Ford, 1969; Maher, 1971). Indeed, "job enrichment"--one particular change technique involving work redesign--seems about to become something of a fad among organizational consultants and managers.

As yet, however, a solid body of knowledge about the effects of job enrichment has not emerged from behavioral science research. Neither are there abundant data available about the relative effectiveness of various strategies for implementing work redesign projects (Hulin & Blood, 1968; Porter, Lawler & Hackman, 1975, Ch. 10).

There are a number of reasons for this unfortunate state of affairs. Some of them have to do with the adequacy of existing theories about how jobs affect people; others derive from methodological difficulties in carrying out job redesign experiments in on-going organizations. Yet perhaps one of the most compelling explanations for the paucity of knowledge about work redesign is also one of the most basic: namely, that our capability to measure (and thereby understand) what is going on with what effects when jobs are changed has been very limited.

The present paper reports the development of a measurement tool which

may be helpful in filling this void in research and action projects involving the redesign of work. The instrument described here specifically was designed to be useful both in the diagnosis of the characteristics of jobs prior to their redesign, and in research and evaluation activities aimed at assessing the effects of redesigned jobs on the employees who perform them.

It is hoped that by increasing our capability to diagnose the motivational potential of jobs before they are changed, it will become possible for organizational change agents to more wisely plan and carry out job redesign projects. Moreover, the availability of a standardized instrument for evaluating such projects should facilitate efforts by behavioral scientists to understand how and why job enrichment works when it does work--and what has gone wrong when it doesn't.

Conceptual Basis of the Instrument

Any measuring device is based on some underlying theory of "what's important" regarding the phenomena under consideration (even if such a theory is implicit), and this instrument is no exception. The theory which gave rise to the present instrument is based on earlier work by Turner & Lawrence (1965) and by Hackman & Lawler (1971). It is sketched briefly below, to provide a context for understanding and interpreting the measures generated by the instrument. For a more detailed description and discussion of the theory itself, see Hackman & Oldham (1974).

The basic theory is presented in Figure 1. It proposes that positive personal and work outcomes (high internal motivation, high work satisfaction, high quality performance, and low absenteeism and turnover) are obtained when three "critical psychological states" are present (experienced meaningfulness of the work, experienced responsibility for the outcomes of the work, and knowledge of the results of the work activities).

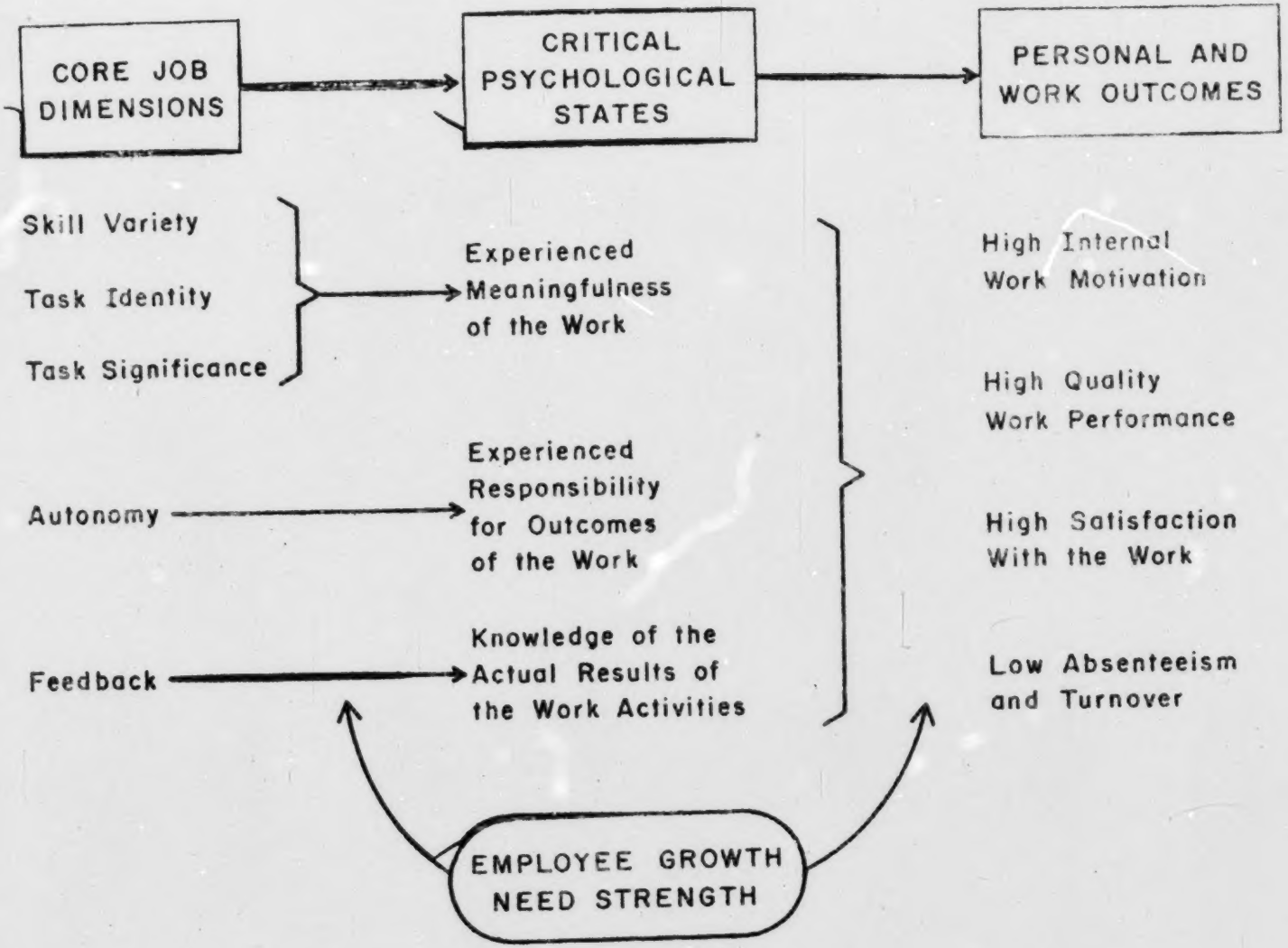

Figure 1

The Relationships Among the Core Job Dimensions, the Critical Psychological States, and On-the-job Outcomes

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All three of the Critical Psychological States must be present for the positive outcomes to be realized.

The theory proposes that the three Critical Psychological States are created by the presence of five "core" job dimensions. Experienced Meaningfulness of the Work is enhanced primarily by three of the Core Dimensions: Skill Variety, Task Identity, and Task Significance. Experienced Responsibility for Work Outcomes is increased when a job has high Autonomy. Knowledge of Results is increased when a job is high on Feedback. Following the theory diagrammed in Figure 1, it is possible to compute a score reflecting the overall "motivating potential" of a job in terms of the core job dimensions. This score (which is discussed in detail by Hackman & Oldham, 1974) is computed as follows:

$$\text{Motivating Potential Score (MPS)} = \left[\frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3}\right] \times [\text{Autonomy}] \times [\text{Feedback}]$$

The theory is not expected to "work" with equal effectiveness for all individuals. In particular, individuals who strongly value and desire personal feelings of accomplishment and growth should respond very positively to a job high in motivating potential; individuals who do not value personal growth and accomplishment may find such a job anxiety-arousing and may be uncomfortably "stretched" by it. Therefore, growth need strength is shown in Figure 1 as a moderator of the other relationships specified by the theory.

Summary of Concepts Measured by the Job Diagnostic Survey

The basic instrument described in this report is called the Job Diagnostic Survey (JDS). It is taken by employees who work on any given job, and provides measures of each of the concepts in the theory sketched

above for that job. In addition, the instrument provides several supplementary measures of the respondent's reactions to his or her work. The specific measures obtained from the JDS are described below.

Job dimensions. The JDS provides measures of the five Core Dimensions shown in Figure 1, which are defined as follows:

> Skill Variety. The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee.
>
> Task Identity. The degree to which the job requires completion of a "whole" and identifiable piece of work--i.e., doing a job from beginning to end with a visible outcome.
>
> Task Significance. The degree to which the job has a substantial impact on the lives or work of other people--whether in the immediate organization or in the external environment.
>
> Autonomy. The degree to which the job provides substantial freedom, independence, and discretion of the employee in scheduling the work and in determining the procedures to be used in carrying it out.
>
> Feedback from the Job Itself. The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance.

In addition, measures are obtained for two additional dimensions which have been found to be helpful in understanding jobs and employee reactions to them. These are:

> Feedback from Agents. The degree to which the employee receives clear information about his or her performance from supervisors or from co-workers. (This dimension is not, strictly speaking, a characteristic of the job itself. It is included to provide information to supplement that provided by the Feedback from the Job Itself dimension.)
>
> Dealing with Others. The degree to which the job requires the employee to work closely with other people in carrying out the work activities (including dealings with other organization members and with external organizational "clients.")

Critical psychological states. The JDS provides measures of each of the three psychological states which are shown in Figure 1 as mediating

between the core job dimensions and the outcomes of the work. These are:

Experienced Meaningfulness of the Work. The degree to which the employee experiences the job as one which is generally meaningful, valuable, and worthwhile.

Experienced Responsibility for Work Outcomes. The degree to which the employee feels personally accountable and responsible for the results of the work he or she does.

Knowledge of Results. The degree to which the employee knows and understands, on a continuous basis, how effectively he or she is performing the job.

Affective reactions to the job. The JDS provides measures of a number of personal, affective reactions or feelings a person obtains from performing the job. These are viewed, in the context of the theory in Figure 1, as the "personal outcomes" obtained from doing the work. (The instrument does not measure actual work productivity or employee perceptions of their productivity.)

General Satisfaction. An overall measure of the degree to which the employee is satisfied and happy with the job.

Internal Work Motivation. The degree to which the employee is self-motivated to perform effectively on the job--i.e., the employee experiences positive internal feelings when working effectively on the job, and negative internal feelings when doing poorly.

Specific Satisfactions. A number of short scales which provide separate measures of satisfaction with:

(a) job security
(b) pay and other compensation
(c) peers and co-workers ("social" satisfaction)
(d) supervision
(e) opportunities for personal growth and development on the job ("growth" satisfaction)

Individual growth need strength. Finally, the JDS taps the strength of the respondent's desire to obtain "growth" satisfactions from his or her work. This measure is viewed as a malleable individual difference characteristic which (as shown in Figure 1) is predicted to affect how positively an employee will respond to a job with objectively high motivating potential.

Development of the Job Diagnostic Survey

Development Strategy

The Job Diagnostic Survey has its origins in previous methodologies developed by Turner & Lawrence (1965) and by Hackman & Lawler (1971).[1] Many of the scales and items used by these researchers are retained, in revised form, in the JDS.

The JDS itself has been under development and refinement for over two years. The following strategic considerations have guided its development:

1. Linking the instrument closely to a specific theory of work design and worker motivation (summarized in the preceding section). The JDS provides measures of all critical variables in the theory --as well as measures of a few supplementary variables that are not included in the theory. As a consequence, the JDS probes theory-specified concepts in considerable depth--but sacrifices empirical breadth in order to do so. That is, the JDS is not an instrument recommended for a broad-based diagnosis of employee attitudes at work; instead it is useful primarily for examining the characteristics of jobs per se and employee reactions to those jobs.

2. Providing more than one methodological format for assessing the theory-specified variables. Given that the intent of the JDS is to provide a detailed and reliable assessment of jobs and reactions to them, an attempt was made to measure each variable in more than one way. Thus, within the JDS itself, each variable is addressed in two different sections of the questionnaire, by items written in two different formats. Moreover, an accompanying instrument (the Job Rating Form) was developed simultaneously with the JDS, and provides a means to obtain measures of the Core

Dimensions from individuals who do not themselves work on the focal job (e.g., supervisors or outside observers). The items on the Job Rating Form exactly parallel those on the JDS, which permits direct comparisons between different views of the same job.

3. Maintaining a clear distinction between descriptions of the job per se and affective reactions to the job. Considerable effort was expended in developing item formats and wordings which would make as clear as possible the differences between those items which ask for descriptions of the job itself and those that tap employees' personal and affective reactions to the job. The intent was to make the former as objective as possible, while allowing the full richness of employees' experiences to dominate the latter.

Refinement of the Instrument

The JDS has undergone three major revisions over the last two years. In its various developmental forms, it has been taken by over 1500 individuals working on more than 100 different jobs in about 15 different organizations.

Revisions were based on both psychometric and substantive considerations. On the one hand, items were added, deleted, and revised in format to maximized scale reliabilities and the empirical discrimination among scales. At the same time, however, the refinement analyses were used to assess the conceptual validity of the theory on which the instrument was based--and the data collected were used to revise and refine the theory simultaneously with the improvement of the instrument itself. At each iteration, the number and magnitude of the changes required were smaller, and the final version of the instrument is not substantially different from the one immediately preceeding it.

Summary of Materials Available

Copies of the following materials are appended to this report:

1. The Job Diagnostic Survey. The basic instrument to be taken by individuals whose jobs (and whose reactions to their jobs) are of focal interest. Reproduced in Appendix A.

2. Scoring Key for the JDS. A description of what items are scored on what JDS scales, specifying the particular scoring conventions which are used. Appendix B.

3. Short Form of the JDS. A brief version of the JDS, which takes only about 10 minutes to complete. Some scales in the JDS are not included in the Short Form; others are measured with fewer items. The scales measuring the job dimensions themselves, however, are measured identically as in the JDS. The Short Form is especially useful as a follow-up instrument in longitudinal studies of work redesign. It can be given repeatedly without creating excessive demands on the respondents, and the job dimension scores themselves are directly comparable to those obtained using the JDS. Appendix C.

4. Scoring Key for the Short Form of the JDS. Appendix D.

5. The Job Rating Form. An instrument to be used by supervisors of the focal job (or by outside observers) in rating job characteristics. Provides measures only of the job dimensions; none of the scales measuring affective reactions to the job are included. No scoring key for the Job Rating Form is included, because the Form is scored identically with Sections One and Two of the JDS and of the Short Form. Appendix E.

Description of the Job Diagnostic Survey

The JDS is described in general terms below, and is attached in Appendix A.

Job Dimensions

Scores on the seven job dimensions measured are obtained from items in Sections One and Two of the JDS. In Section One, a single item is provided for each job dimension, in the following format:

> 1. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?
>
> 1----------2----------3----------4----------5----------6----------7
> Very little: the job requires me to do the same routine things over and over again. | Moderate variety | Very much: the job requires me to do many different things, using a number of different skills and talents.

Respondents circle the number which best reflects their assessment of the amount of variety in their jobs.

In Section Two, two items are provided for each of the seven job dimensions, one of which is phrased in direct or positive terms, and one of which is phrased in reversed or negative form. Respondents are asked to indicate how accurate vs. inaccurate each statement listed is in describing the objective characteristics of the job. A seven-point scale is used, ranging from "Very Inaccurate" through "Uncertain" to "Very Accurate." A sample statement (in reversed format) for Skill Variety is:

_____ 1. The job is quite simple and repetitive.

Critical Psychological States

Scores for Experienced Meaningfulness of the Work, Experienced Responsibility for Work Outcomes, and Knowledge of Results are obtained from Sections Three and Five of the JDS. In Section Three, respondents indicate their agreement or disagreement with a number of statements about their work experience. A seven-point scale is used, ranging from

"Disagree Strongly" through "Neutral" to "Agree Strongly." Sample statements are given below.

For Experienced Meaningfulness of the Work (reversed format):

_____ 1. Most of the things I have to do on this job seem useless or trivial.

For Experienced Responsibility for Work Outcomes:

_____ 1. I feel I should personally take the credit or blame for the results of my work on this job.

For Knowledge of Results (reversed format):

_____ 1. I often have trouble figuring out whether I'm doing well or poorly on this job.

In Section Five, a projective format is used, in which respondents are asked to "think of other people in your organization who hold the same job as you do" and to indicate how accurate each of a number of statements are in describing the feelings of those other people about the job. The scale is the same seven-point Agree-Disagree scale used in Section Three. The content of the items is very similar to those included in Section Three, except that most items are prefaced by a phrase such as "Most people on this job. . . ." A sample item (for Experienced Meaningfulness) is:

_____ 1. Most people on this job find the work very meaningful.

In all, there are four items tapping Experienced Meaningfulness of the Work (two in Section Three and two in Section Five); six items for Experienced Responsibility for Work Outcomes (four in Section Three and two in Section Five); and four items for Knowledge of Results (two in Section Three and two in Section Five). Eight of the items are directly stated; six of the items are in reversed format.

Affective Reactions: General Satisfaction and Internal Work Motivation

General satisfaction and internal work motivation also are assessed

by items in Sections Three and Five: the items for these scales are intermixed with those for the Critical Psychological States, described above. There are five items tapping general satisfaction (three in Section Three and two in Section Five) and six items for internal work motivation (four in Section Three and two in Section Five). Two of the general satisfaction items and one of the internal motivation items are in reversed format.

A sample item for general satisfaction (from Section Five, reversed format) is:

_____ 1. People on this job often think of quitting.

A sample item for internal work motivation (from Section Three, direct format) is:

_____ 1. My opinion of myself goes up when I do this job well.

Affective Reactions: Specific Satisfactions

Scores for five specific satisfaction sub-scales are obtained from Section Four of the JDS. Subjects respond to the query "How satisfied are you with this aspect of your job?" for each item, using a seven-point scale which ranges from "Extremely Dissatisfied" through "Neutral" to "Extremely Satisfied." Sample items for each of the five sub-scales are given below.

Job Security (two items)

_____ 1. How secure things look for me in the future in this organization.

Pay and Compensation (two items)

_____ 1. The amount of pay and fringe benefits I receive.

Social (three items)

_____ 1. The chance to get to know other people while on the job.

Supervision (three items)

_____ 1. The amount of support and guidance I receive from my supervisor.

Growth (four items)

_____ 1. The amount of personal growth and development I get in doing my job.

Individual Growth Need Strength

The growth need strength of respondents is measured in Sections Six and Seven of the JDS.

"Would like" format. In Section Six, respondents are asked to indicate "the degree to which you would like to have each (of eleven conditions) present in your job." Five of the items (e.g., "Very friendly co-workers") are not relevant to individual growth needs, and are not scored. A sample item is:

_____ 1. Chances to exercise independent thought and action in my job.

All eleven of the items refer to generally positive or desirable aspects of the workplace. To emphasize to the respondents that most items are seen as desirable to most people, the seven-point response scale ranges from "Would like having this only a moderate amount--or less" through "Would like having this very much" to "Would like having this extremely much." To further reinforce the fact that these items are to be marked differently from those encountered earlier in the instrument, the numerical values on the response scale range from 4 to 10. The item scores are transformed to a standard 1 to 7 scale prior to analysis by subtracting a constant of 3.0 from each item.

Job choice format. Growth need strength is measured in Section Seven of the JDS by asking respondents to indicate their relative preferences for pairs of hypothetical jobs. A sample item is:

JOB A				JOB B
A job where you are often required to make important decisions.				A job with many pleasant people to work with.
1	2	3	4	5
Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B

Respondents circle the number which reflects their own relative preference between the two jobs. There are 12 items (i.e., pairs of hypothetical jobs) in the section. In each item a job with characteristics relevant to growth need satisfaction is paired with a job which has the potential for satisfying one of a variety of other needs. In half of the items (as in the example above) the choice is between jobs which both have positive characteristics; in half the choice is between jobs which both have predominantly negative features (e.g., a job where there is a real chance of being laid off vs. a job with little chance to do challenging work). The growth-relevant job is presented in half of the items as "JOB A" and in half as "JOB B."

Biographical Information

Brief biographical data are obtained in Section Eight of the JDS, including the sex, age, and highest level of education of the respondent.

Empirical Properties of the Job Diagnostic Survey

In general, the JDS has been found to have satisfactory psychometric characteristics, and summary scores derived from the instrument have been shown to have substantive validity. The empirical findings on which these conclusions are based are reported and discussed below.[2]

Methodology

Sample. The results reported are based on data obtained from 658 employees working on 62 different jobs in seven organizations. The jobs

were highly heterogeneous, including blue collar, white collar, and professional work. Both industrial and service organizations were included in the sample, but all were business organizations. The organizations were located in the east, southeast, and midwest, in both urban and rural settings. The demographic characteristics of the respondents are summarized in Table 1.

Data collection procedure. All data were collected on-site by one of the authors or their associates.[3] One to four days were spent by the researchers at each organization collecting data. Procedural steps were typically as follows:

1. The nature of the research was explained to second- or third-level management, and permission to administer the instrument was secured. Managers were informed that the project had to do with the refinement of an instrument to diagnose jobs, and that it would involve collection of data from employees, from their supervisors, and from company records.

2. The JDS was administered to groups of employees (ranging from 3 to 25 at a time). Before taking the questionnaire, employees were told about the nature and purposes of the research, and were given the option of not participating. Few employees declined to complete the questionnaire. It also was emphasized that all information obtained would be held in confidence, and that no one in the organization would have access to individual responses. Employees were told that it was desirable to have names on questionnaires for research purposes, but that this also was voluntary. About 10 percent of the respondents declined to provide their names.

3. Supervisors were asked to complete the Job Rating Form, which measures the characteristics of the focal job as viewed by individuals

Table 1

DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

	N	Percent
SEX		
Male	386	59
Female	272	41
AGE		
Under 20	60	9
20-29	282	43
30-39	175	27
40-49	65	10
50-59	62	9
60 and over	12	2
EDUCATION		
Grade school	7	1
Some high school	40	6
High school degree	221	34
Some business college or technical school	76	12
Some college experience (other than business or technical)	151	23
Business college or technical school degree	22	3
College degree	90	14
Some graduate work	24	4
Master's or higher degree	26	4
LOCATION OF PLACE OF WORK		
Urban	355	54
Suburban	46	7
Rural	255	39
LOCATION OF RESIDENCE		
Urban	194	30
Suburban	288	44
Rural	172	26
LOCATION OF CHILDHOOD HOME		
Urban	207	32
Suburban	217	33
Rural	230	35

who do not work on that job. These questionnaires were administered to supervisors in groups ranging in size from one to ten. As was the case for employees who worked on the target jobs, the nature and purposes of the research were explained before the questionnaires were distributed, and confidentially was assured.

4. The researchers completed a version of the Job Rating Form, after having observed the job for between one and two hours--providing a third perspective on the objective characteristics of the target job.

5. Members of management were asked to rate the work performance of each respondent on (a) effort expended on the job, (b) work quality, and (c) work quantity. Subsequently a summary measure of rated work effectiveness was obtained by averaging these ratings across the three scales and across the supervisors who rated each employee.

6. Absence data were obtained from company records. These data were recorded in terms of the number of days each employee in the sample had been absent during the immediately preceding year.[4]

In some organizations and for some jobs it was not possible to obtain all the data described above. Therefore, some of the results reported below are based on that sub-set of the total sample for which complete data are available for the variable(s) of interest.

JDS Scale Reliabilities[5]

Table 2 presents the internal consistency reliabilities of each of the scales measured by the Job Diagnostic Survey.[6] Also included in the table for each scale is the median of the correlations between (a) the items composing a given scale and (b) all of the other items which are scored on different scales of the same general type. These median correlations (called in the table "off-diagonal" correlations) provide one

Table 2

RELIABILITIES OF THE JDS SCALES

	Internal Consistency Reliability	Median Off-diagonal Correlation[a]
JOB DIMENSIONS		
Skill Variety	.71	.19
Task Identity	.59	.12
Task Significance	.66	.14
Autonomy	.66	.19
Feedback from the Job Itself	.71	.19
Feedback from Agents	.78	.15
Dealing with Others	.59	.15
PSYCHOLOGICAL STATES		
Experienced Meaningfulness of the Work	.74	.26
Experienced Responsibility for the Work	.72	.23
Knowledge of Results	.76	.17
AFFECTIVE RESPONSES TO THE JOB		
General Satisfaction	.76	.25
Internal Work Motivation	.76	.25
Specific Satisfactions:		
Job Security	b	b
Pay	b	b
Social	.56	.23
Supervisory	.79	.25
Growth	.84	.28
GROWTH NEED STRENGTH		
"Would Like" Format	.88	c
Job Choice Format	.71	c

Notes:

a. The median off-diagonal correlation is the median correlation of the items scored on a given scale with all of the items scored on different scales of the same type. Thus, the median off-diagonal correlation for skill variety (.19) is the median correlation of all items measuring skill variety with all the items measuring the other six job dimensions.

b. These scales were added to the JDS after the present data were collected, and no reliability data are yet available.

c. Off-diagonal correlations are not reported for these two scales, since all items were designed to tap the same construct. The scale scores obtained using the "would like" format correlate .50 with the scale scores obtained using the job choice format.

reflection of the discriminant validity of the items.

The internal consistency reliabilities range from a high of .88 (growth need strength, in the "would like" format) to a low of .56 ("social" satisfaction). The median off-diagonal correlations range from .12 (task identity) to .28 ("growth" satisfaction). In general, the results suggest that both the internal consistency reliability of the scales and the discriminant validity of the items are satisfactory.

Objectivity of the Job Dimensions

Assessments of the focal jobs on the job dimensions were made not only by employees who worked on those jobs, but by supervisors and observers (the researchers) as well. This was done to provide an indirect test of the "objectivity" of employee ratings of the characteristics of their own jobs.

The relationships among the judgments made by employees, supervisors, and observers are shown in Table 3. The ratings of each group (i.e., employees, supervisors, observers) were averaged for each job, and then correlations were computed using jobs as observations. The median of the correlations between employees and supervisors is .51; between employees and observers is .63; and between supervisors and observers is .46.

Although in general the ratings of the three groups converge moderately well, there are some job dimensions (e.g., Feedback from Agents) for which the correlations between two of the groups are quite low. Moreover, the general level of the correlations is lower than those reported for similar job dimensions by Hackman & Lawler (1971).

It may be reasonably argued that when the intent is to predict or understand employee attitudes and behavior at work, employee ratings of the job dimensions should be used--since it is an employee's own perceptions

of the objective job which is causal of his reactions to it. The data in Table 3 suggest, however, that employee descriptions of their jobs, at least for some job dimensions, may be discrepant from the views of other observers. Therefore, when the present instruments are used for diagnostic or evaluative research, it is recommended that ratings of job characteristics be obtained from at least two different sources--and that efforts be made to understand the reasons for any major discrepancies which are observed between them.

Means and Variances of the JDS Scales

Means and standard deviations of the JDS scale scores across all 658 respondents are presented in Table 4. The table also shows the mean JDS scores across the 62 jobs in the sample (i.e., the scores of respondents who worked on each job were averaged, and the mean of these averages was computed across the 62 jobs for each scale.) The scale means obtained across all respondents are very similar to those obtained when averages were computed across jobs. This indicates that the different numbers of respondents who held the various jobs did not substantially affect the mean scale scores.

Also reported in Table 4 are the results of one-way analyses of variance which were computed for each scale across 50 jobs which had five or more respondents. As expected, between-job differences are statistically significant for all of the JDS scale scores. The data in the table show that the JDS scales vary considerably both in the amount of between-job variance present, and in the amount of variance present among respondents within jobs. The F-ratios can be taken as rough indicators of the sensitivity of the scales to between-job differences (at least for the set of jobs in the present sample). It should be kept in mind, however, that

Table 3

RELATIONSHIPS AMONG EMPLOYEES', SUPERVISORS' AND OBSERVERS' JOB RATINGS

	CORRELATIONS BETWEEN:		
JOB DIMENSION	Employees and Supervisors	Employees and Observers	Supervisors and Observers
Skill Variety	.64	.66	.89
Task Identity	.31	.32	.44
Task Significance	.48	.65	-.14
Autonomy	.58	.76	.72
Feedback from the Job Itself	.33	.58	.47
Feedback from Agents	.07	-.13	.14
Dealing with Others	.55	.61	.37
Motivating Potential Score	.56	.70	.71
Median	.51	.63	.46

Note: Data are included only for those jobs for which more than one set of supervisory ratings were available. Ns ranged from 12 to 21 jobs.

Table 4

MEANS AND VARIANCES OF JDS SCORES

	TOTAL SAMPLE		ANALYSIS OF VARIANCE ACROSS JOBS			
	$\bar{X}$	S.D.	$\bar{X}$	S^2 within Jobs	S^2 between Jobs	F-ratio
JOB DIMENSIONS						
Skill Variety	4.49	1.67	4.47	1.54	17.70	11.49
Task Identity	4.87	1.43	4.87	1.71	5.90	3.45
Task Significance	5.49	1.29	5.54	1.55	3.22	2.08
Autonomy	4.80	1.43	4.75	1.55	7.92	5.11
Feedback from the Job Itself	4.98	1.41	4.96	1.76	4.41	2.51
Feedback from Agents	3.98	1.65	3.87	2.28	6.82	2.99
Dealing with Others	5.29	1.34	5.27	1.35	6.70	4.96
Motivating Potential Score (MPS)	128.31	72.73	120.68	4112.	19,959.	4.85
PSYCHOLOGICAL STATES						
Experienced Meaningfulness of the Work	5.12	1.10	5.06	1.05	3.19	3.04
Experienced Responsibility for the Work	5.46	0.91	5.44	0.70	2.37	2.24
Knowledge of Results	5.18	1.09	5.19	1.06	2.57	2.42
AFFECTIVE RESPONSES TO THE JOB						
General Satisfaction	4.62	1.18	4.57	1.13	4.19	3.71
Internal Work Motivation	5.39	0.96	5.34	0.82	2.19	2.67
Specific Satisfactions:						
Job Security	a	a	a	a	a	
Pay	a	a	a	a	a	
Social	5.42	0.92	5.42	0.77	1.72	2.23
Supervisory	5.28	1.27	5.32	1.42	3.81	2.68
Growth	4.82	1.32	4.77	1.48	4.64	3.14
GROWTH NEED STRENGTH						
"Would Like" Format	5.62	1.28	5.51	1.30	5.11	3.93
Job Choice Format	b	b	b	b	b	b
N	658		62	c	c	c

Notes:

a. These scales were added to the JDS after the present data were collected, and normative data are not yet available.

b. The response scale for the job choice format was revised from seven to five points after these data were collected. Preliminary indications are that the mean of the five-point scale will be close to the midpoint (3.0).

c. The analysis of variance was conducted on 50 jobs which had five or more respondents. df=49, 563. All F-ratios are significant beyond the .01 level.

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within-job variance (the denominator of the F-ratio) is multiply-determined--and in part determined by real differences in actual jobs within organizational job categories. That is, some (unknown) amount of the within-job variance must be attributed to scale unreliability and to individual differences among respondents. At the same time, some (also unknown) amount of the same variance is explained by the fact that jobs often are individually designed--to take account of particular characteristics of the people who do them, or because of the need for certain specialized activities to be performed by some people within a given job category. Therefore, the ratio of the between- to the within-job variance should be interpreted with caution.

Means for a subset of the JDS scales from an entirely different sample are presented in Appendix F. These data, from VanMaanen & Katz (1974), show the mean JDS scores for a group of over 3000 public employees, broken into eight Equal Employment Opportunity Commission (EEOC) job categories. In general, the mean scores for the EEOC sample are higher than the mean scores for the sample from business organizations reported in Table 4.

Relationships Among the JDS Scales

Intercorrelations among the JDS scales are presented in Tables 5 and 6. The correlations in Table 5 were computed across all 658 respondents; in Table 6, respondent scores were averaged for each job, and these mean scores were intercorrelated across the 62 jobs.

In general, the patterns of intercorrelations in Tables 5 and 6 are quite similar--although the overall level of relationship in the analysis across jobs is higher than in the case for the analysis across all 658 respondents. This is to be expected for a number of reasons, not the least of which is that the reliability of the JDS scores used in the analysis which used jobs as observations, was undoubtedly higher than the reliability

Table 5

INTERCORRELATIONS AMONG JDS SCALE SCORES (ACROSS 658 RESPONDENTS)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Skill Variety	--																	
2	Task Identity	.16	--																
3	Task Significance	.21	.20	--															
4	Autonomy	.51	.38	.22	--														
5	Feedback from the Job Itself	.32	.26	.26	.34	--													
6	Feedback from Agents	.25	.16	.22	.23	.37	--												
7	Dealing with Others	.46	.02	.24	.29	.24	.26	--											
8	Motivating Potential Score (MPS)	.62	.51	.41	.80	.72	.36	.34	--										
9	Experienced Meaningfulness of the Work	.51	.26	.43	.46	.41	.31	.33	.57	--									
10	Experienced Responsibility for the Work	.40	.34	.34	.41	.37	.23	.24	.53	.64	--								
11	Knowledge of Results	.12	.21	.21	.26	.54	.39	.06	.43	.33	.32	--							
12	General Satisfaction	.42	.22	.24	.43	.37	.33	.24	.49	.66	.48	.34	--						
13	Internal Work Motivation	.42	.22	.32	.33	.36	.25	.30	.46	.63	.66	.25	.51	--					
14	Social Satisfaction	.31	.17	.24	.38	.27	.31	.36	.40	.41	.38	.32	.40	.40	--				
15	Supervisory Satisfaction	.15	.16	.16	.32	.31	.41	.13	.35	.39	.32	.37	.46	.31	.37	--			
16	Growth Satisfaction	.52	.31	.33	.58	.44	.39	.28	.63	.68	.54	.36	.67	.56	.52	.47	--		
17	Growth Need Strength (would like format)	.22	.08	.03	.10	.11	.13	.16	.19	.10	.21	.07	.04	.19	.08	.07	.02	--	
18	Growth Need Strength (job choice format)	.31	.06	-.01	.19	.13	.15	.20	.25	.15	.21	.05	.13	.17	.10	.10	.08	.50	--

Note.--N = 658. Correlations $>$ .10 are significant at the .01 level (two-tailed)

Table 6

INTERCORRELATIONS AMONG JDS SCALE SCORES (ACROSS 62 JOBS)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Skill Variety	--																	
2	Task Identity	.20	--																
3	Task Significance	.23	.33	--															
4	Autonomy	.64	.40	.06	--														
5	Feedback from the Job Itself	.43	.37	.36	.46	--													
6	Feedback from Agents	.12	.32	-.01	.25	.24	--												
7	Dealing with Others	.61	-.04	.11	.44	.37	.21	--											
8	Motivating Potential Score (MPS)	.76	.55	.37	.86	.76	.30	.49	--										
9	Experienced Meaningfulness of the Work	.64	.31	.46	.49	.47	.10	.31	.66	--									
10	Experienced Responsibility for the Work	.58	.58	.47	.58	.53	.26	.35	.74	.64	--								
11	Knowledge of Results	.06	.16	.34	.30	.57	.27	.10	.40	.29	.30	--							
12	General Satisfaction	.54	.38	.21	.57	.52	.27	.32	.67	.54	.68	.35	--						
13	Internal Motivation	.52	.36	.39	.41	.65	.11	.29	.66	.65	.77	.32	.71	--					
14	Social Satisfaction	.35	.10	.26	.37	.42	.16	.63	.45	.35	.45	.44	.35	.35	--				
15	Supervisory Satisfaction	.15	.20	.29	.31	.43	.42	.16	.40	.33	.42	.61	.57	.43	.38	--			
16	Growth Satisfaction	.65	.43	.39	.76	.63	.36	.48	.85	.63	.77	.46	.74	.66	.60	.55	--		
17	Growth Need Strength (would like format)	.43	.37	.10	.43	.40	.47	.26	.53	.40	.55	.23	.57	.51	.23	.39	.39	--	
18	Growth Need Strength (job choice format)	.54	.34	.14	.47	.37	.40	.43	.58	.32	.57	.06	.51	.49	.26	.29	.39	.80	--

Note.--N = 62. Correlations > .32 are significant at the .01 level (two-tailed)

of the scores used in the analysis across all 658 individuals--simply because the perceptions and reactions of all individuals who held a given job were averaged prior to computing correlations across jobs.

The job dimensions themselves are moderately intercorrelated, as has been found previously (Hackman & Lawler, 1971). Again, this is to be expected if it is assumed that "good" jobs often are good in a number of ways --and "bad" jobs often are generally bad. There is no a priori reason to expect that the job dimensions would or should be completely independent, and a moderate level of intercorrelation among them does not detract from their usefulness as separate job dimensions--so long as the fact of their non-independence is recognized and accounted for in interpreting the scores of jobs on a given job dimension.

In the analysis across respondents, the job dimensions, psychological states, and affective reactions are generally independent of the two measures of growth need strength (the median intercorrelation is .11). These relationships are substantially higher in the correlations computed across jobs--which may reflect the emergence of a congruence between the needs of individuals and the psychological make-up of jobs as people arrive to work on the job, leave, and are changed by the work they do.

Substantive Validity of the JDS

The substantive validity of the instrument is addressed in detail in a separate report (Hackman & Oldham, 1974). In general, that report shows that the variables measured by the JDS relate to one another (and to external criterion variables) generally as predicted by the theory on which the instrument is based. In particular, the job dimensions (and the Motivating Potential Score) relate positively and often substantially to:

(1) the other variables measured by the JDS which are predicted to be

affected by the job characteristics, including the three critical psychological states, general satisfaction, growth satisfaction, and internal work motivation (cf. Tables 5 and 6).

(2) behavioral measures of absenteeism and supervisory ratings of work performance effectiveness.

In addition, and also as predicted by the theory, the relationships between the job dimensions and the dependent measures (including the behavioral measures) are stronger for individuals with high growth need strength than they are for individuals who are not strongly desirous of growth satisfactions. All of these relationships are explored in more detail in the separate report referenced above.

Summary

Data reported or summarized in this section show that the Job Diagnostic Survey has satisfactory psychometric characteristics, and that the variables it taps relate generally as predicted to appropriate external criteria. Internal consistency reliabilities are generally satisfactory, and the items which compose the scales show adequate discriminant validity. Ratings of job characteristics by employees, supervisors, and outside observers show a moderate level of convergence for most of the job dimensions; it is recommended that ratings of job dimensions be obtained from more than one source in applications of the instrument to permit the degree of convergence in each particular situation to be checked. Variances of the scales are generally satisfactory, although some JDS scales show greater sensitivity to between-job differences than do others. Relationships among the JDS scales are generally positive, indicating that either the concepts tapped by the instrument or the methodologies used to gauge these concepts (or both) are not completely independent. In general, the

relationships among the JDS scales (and between these scales and behaviorally-based dependent variables) are substantial and in the direction predicted by the theory on which the instrument is based.

THE JOB RATING FORM

The Job Rating Form is a companion instrument to the JDS, designed for use in obtaining assessments of jobs on the job dimensions by supervisors or outside observers who do not work on the job. Except for the instructions and minor rewordings of the item stems (e.g., changing "your job" to "the job") the Job Rating Form is identical to Sections One and Two of the JDS. As previously discussed, this permits direct quantitative comparisons to be made between assessments made of job characteristics by the people who do the job, by their supervisors, and by outside observers.

Means, standard deviations, and scale intercorrelations for the Job Rating Form are presented in Table 7, separately for respondents who were in supervisory positions vis-a-vis the job rated, and for outside observers (typically the researchers from Yale). The five core job dimensions are most highly intercorrelated for the observers, next most for supervisors, and least most for the employees themselves (see Tables 5 and 6). This suggests that the "closer" one is to the job, the better able one is to differentiate among the different job dimensions--which provides another reason for attending most closely to employee ratings of their own jobs in any diagnostic use of the JDS.

An analysis of variance comparing the mean job dimension scores for employees, supervisors, and observers is presented in Table 8. Statistically significant mean differences are obtained for all job dimensions except Skill Variety and Feedback from the Job Itself. Typically supervisory

Table 7

MEANS, STANDARD DEVIATIONS, AND INTERCORRELATIONS OF JOB DIMENSIONS FROM THE JOB RATING FORM

DATA FROM SUPERVISORS

JOB DIMENSIONS	MEAN	S.D.	INTERCORRELATIONS 1	2	3	4	5	6	7	8
1 Skill Variety	4.45	1.50	--							
2 Task Identity	4.92	1.35	.48	--						
3 Task Significance	6.07	0.75	.13	.15	--					
4 Autonomy	4.70	1.31	.55	.43	.02	--				
5 Feedback from the Job Itself	5.15	1.12	.47	.59	.00	.58	--			
6 Feedback from Agents	5.13	0.95	.27	.26	-.13	.39	.22	--		
7 Dealing with Others	5.14	1.23	.52	.18	.07	.65	.42	.26	--	
8 Motivating Potential Score (MPS)	134.	66.61	.71	.66	.14	.88	.77	.38	.60	--
N	46									

DATA FROM OBSERVERS

			1	2	3	4	5	6	7	8
1 Skill Variety	4.12	1.78	--							
2 Task Identity	4.27	1.52	.78	--						
3 Task Significance	4.56	1.27	.62	.63	--					
4 Autonomy	3.84	1.91	.81	.80	.58	--				
5 Feedback from the Job Itself	5.12	1.29	.17	.21	.17	.33	--			
6 Feedback from Agents	3.44	1.52	.30	.32	.38	.25	.03	--		
7 Dealing with Others	4.19	1.79	.49	.53	.45	.44	.23	.38	--	
8 Motivating Potential Score (MPS)	100	78.24	.86	.83	.65	.93	.47	.26	.52	--
N	38									

Note.--When more than one supervisory or observer rating was obtained for a job, they were averaged for that job prior to analysis. Correlations $> .37$ for supervisors and $> .39$ for observers are significant at the .01 level (two-tailed).

Table 8

COMPARISON OF MEAN JOB DIMENSION SCORES
FOR EMPLOYEES, SUPERVISORS, AND OBSERVERS

JOB DIMENSION	MEANS			F-ratio	p
	Employees	Supervisors	Observers		
Skill Variety	4.47	4.46	4.12	0.75	.48
Task Identity	4.87	4.92	4.27	3.95	.02
Task Significance	5.55	6.07	4.56	32.90	.001
Autonomy	4.75	4.70	3.84	6.33	.001
Feedback from the Job Itself	4.96	5.15	5.12	0.55	.58
Feedback from Agents	3.87	5.13	3.44	28.92	.001
Dealing with Others	5.27	5.15	4.19	9.62	.001
Motivating Potential Score (MPS)	121	134	100	3.17	.04
N	62	46	38		

df = 2, 143

ratings are highest and observer ratings are lowest of the three; as might be expected, supervisors are especially high in comparison to the other two groups for the dimensions Task Significance and Feedback from Agents.

Discussion

Diagnostic Use of the JDS

One of the major intended uses of the JDS is in diagnosing existing jobs as an input to planned job redesign. In the paragraphs to follow, a set of action steps is presented that one might follow in carrying out a job diagnosis using the instrument. At each step a question is posed, and the usefulness of JDS scores in responding to the question is explored.

Step 1. Are motivation and satisfaction really problematic? Sometimes organizations undertake job enrichment or work redesign to improve the work motivation and satisfaction of employees when in fact the real problem with work performance lies elsewhere--for example, in an error-prone computer, in a poorly designed production system, and so on. It is important, therefore, to examine the scores of employees on the motivation and satisfaction portions of the JDS as the first step in a job diagnosis. If motivation and satisfaction are problematic (and are accompanied by documented problems in work performance, absenteeism, or turnover as revealed by independent organizational indices), the change agent would continue to Step 2. If not, he presumably should look to other aspects of the work situation to identify and understand the reasons for the problem which gave rise to the diagnostic activity.

Step 2. Is the job low in motivating potential? To answer this question, the change agent would examine the Motivating Potential Score of the target job, and compare it to the MPS scores of other jobs (and to the

means reported in Table 4 and Appendix F) to determine whether or not the job itself is a probable cause of the motivational problems documented in Step 1. If the job turns out to be low on the MPS, he would continue to Step 3; if it scores high, he would look for other reasons for the motivational difficulties (e.g., the pay plan, the nature of supervision, and so on).

Step 3. What specific aspects of the job are causing the difficulty? This step involves examination of the job on each of the five Core Job Dimensions, to pinpoint the specific strengths and weaknesses of the job as it currently exists. It is useful at this stage to construct a "profile" of the target job, to make visually apparent where improvements need to be made. An illustrative profile for two jobs (one "good" job and one job needing improvement) is shown in Figure 2.

Job "A" is an engineering maintenance job, and is high on all of the Core Dimensions; the MPS of this job is a very high 260.[7] Job enrichment would not be recommended for this job if employees working on the job were unproductive and unhappy, the reasons are likely to have little to do with the nature or design of the work itself.

Job "B", on the other hand, has many problems. This job involves the routine and repetitive processing of checks in the "back room" of a bank. The MPS is 30, which is quite low--and indeed, would be even lower if it were not for the moderately high Task Significance of the job. (Task Significance is moderately high because the people are handling large amounts of other people's money--and therefore the quality of their efforts potentially have important consequences for their unseen "clients.") The job provides the individuals with very little direct feedback about how effectively they are doing it; the employees have little autonomy in how

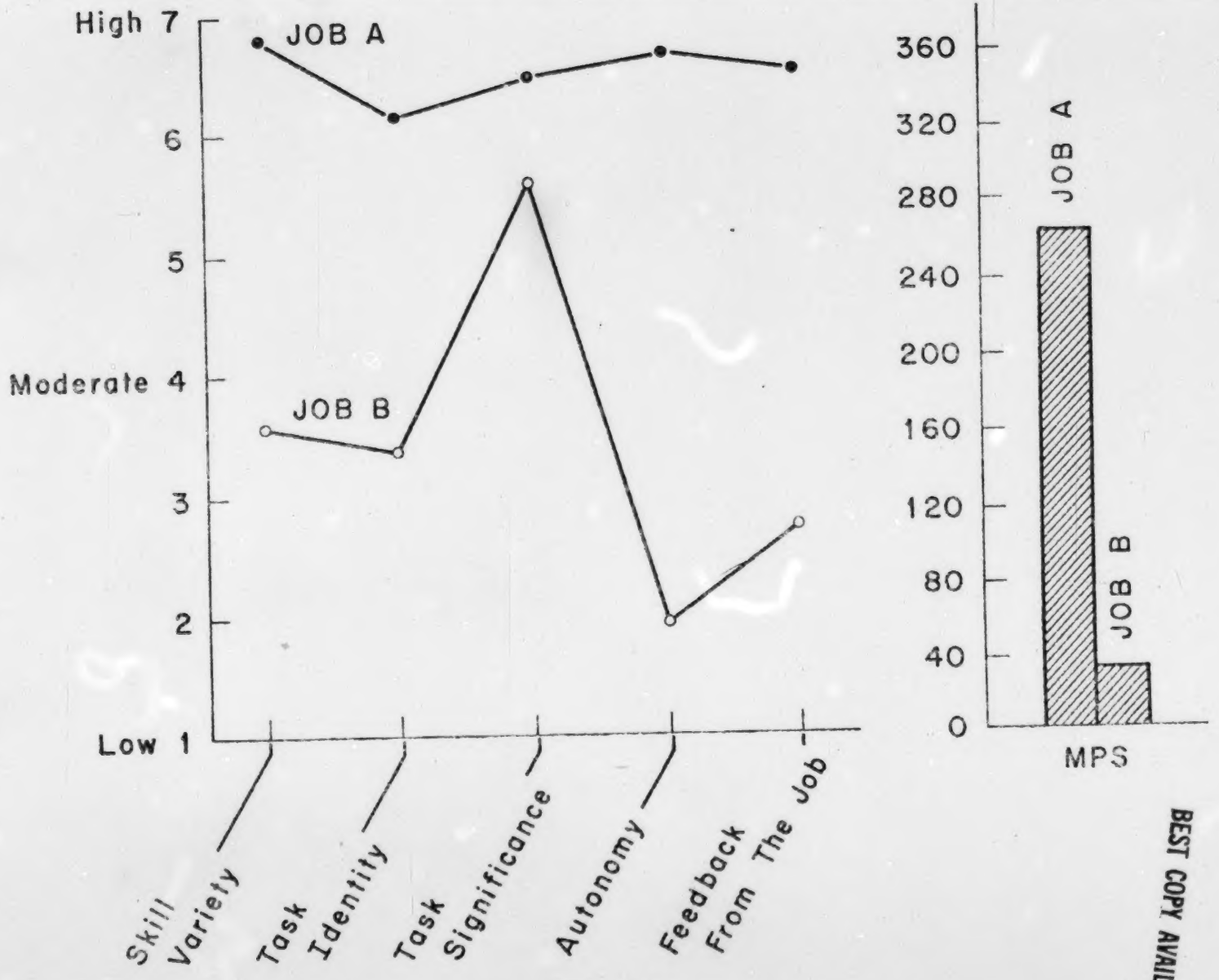

Figure 2

The JDS Diagnostic Profile for a "Good" and a "Bad" Job

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they go about doing the job; and the job is moderately low in both Skill Variety and in Task Identity.

For Job B, then, there is plenty of room for improvement--and many avenues to examine in planning job changes. For still other jobs, the avenues for change often turn out to be considerably more specific: for example, Feedback and Autonomy may be reasonably high, but one or more of the Core Dimensions which contribute to the experienced meaningfulness of the job (i.e., Skill Variety, Task Identity, and Task Significance) may be low. In such a case, attention would turn to ways to increase the standing of the job on these three latter dimensions.

In conducting such a diagnosis, the researcher probably would not wish to rely solely on the reports employees provide on the JDS of what the objective characteristics of their jobs are. In addition, it would be informative to use the Job Rating Form to obtain assessments by supervisors (and perhaps by outside observers as well) of the characteristics of the focal job. Such data could serve at least two purposes: (a) it would pinpoint what characteristics of the job (if any) are viewed differently by different groups of respondents--thereby focusing attention on particularly unclear or otherwise troublesome aspects of the job; and (b) it would provide an indication of the overall degree of differential perceptions by employees and their supervisors. These latter data could serve an important diagnostic function in their own right (regardless of the specific job dimensions on which disagreement was noted), in that substantial disagreement between employees and their supervisors could suggest that superior-subordinate relationships might need consultative attention either prior to or as an explicit part of any work re-design project.[8]

Step 4. How "ready" are the employees for change? Once it has been

documented that there is need for improvement in the focal job--and the particularly troublesome aspects of the job have been identified--then it is appropriate to begin planning the specific action steps which will be taken to enrich the job (cf., Hackman, Oldham, Janson & Purdy, 1974). An important factor in such planning is determining the growth need strength of the employees, since employees high on growth needs usually respond more readily to job enrichment than do employees with little need for growth. The measure of employee growth need strength provided by the JDS can be helpful in identifying which employees should be among the first to have jobs changed (i.e., those with high growth need strength), and how such changes should be introduced (i.e., perhaps with more caution for individuals with low growth need strength).

Step 5. What special problems and opportunities are present in the existing work system? Finally, before undertaking actual job changes, attention should be given to any particular roadblocks which may exist in the organizational unit as it currently exists--and to any special opportunities which may be built upon in the change program. Many of these factors will be idiosyncratic to the system, and easily identifiable by those responsible for guiding the change.

Some other factors, perhaps less readily noticeable, are tapped by the JDS. In particular, the change agent might examine the current level of satisfaction of employees with various aspects of their organizational life. If, for example, measured satisfaction with pay, job security, and supervision all are very low, the difficulty of initiating and developing a successful job redesign project is likely to be very high--since strong existing dissatisfactions may be accompanied by mistrust of the change and resistance to it. If, on the other hand, satisfaction with supervision is

very high, the change agent might wish to consider building an especially central role for supervision in the initiation and management of the change process.

Other examples could be given as well. The point is simply that the supplementary measures provided by the JDS (especially those having to do with aspects of employee satisfaction) may be helpful in alerting change agents to special problems and opportunities which deserve explicit recognition and attention as part of the diagnosis of an existing work system.

Cautions in the Use of the Job Diagnostic Survey

Listed below are a number of issues which, if not recognized, could impair the validity and the usefulness of the JDS in some applications. These include:

1. Respondents to the JDS must be moderately literate. Use of the JDS is not recommended for individuals with an eighth grade education or less, or with individuals who do not read English well. Usually it is possible to identify individuals who have had trouble understanding the instrument by leafing through the completed questionnaire: numerous skipped items (or pages) or pages on which all blanks are filled in with the same number usually indicate difficulty in comprehending the instrument.

2. The instrument is readily fakable, and probably should not be used for selection or placement purposes--unless an extraordinarily high level of trust exists between the employee and the managers who will be using the results. Indeed, even when the JDS is used to diagnose a work system prior to change (or to assess the effects of changes which have been made) care should be taken to ensure that employees believe that their own interests will be best served if the data they provide accurately reflect the objective characteristics of the jobs and their personal reactions to

them.

3. Related to the above, it probably is preferable for employees to take the JDS under conditions of anonymity. While the research reported in this paper required the listing of names (and names were voluntarily supplied by nearly all of the respondents), the instrument was administered by a university-affiliated person and it was explicitly explained to the respondents that the primary use of their answers was for research purposes. When the instrument is administered by members of organizational management for use by management, anonymity surely will be important for at least some of the respondents.

4. The instrument is not recommended for use in diagnosing the jobs of single individuals. Anonymity, of course, is impossible if the individual knows that it is his or her own individual job that is being diagnosed. But the issue extends beyond that. In developing the JDS, the intent was to develop scales composed of items with rather heterogeneous content--to maximize the substantive "richness" of each measure. This was accomplished at some cost to internal consistency reliability. The reliabilities are more than satisfactory when the instrument is used to obtain average scores of a group of five or more individuals who work on a given job. In such circumstances, the estimated internal consistency of each JDS scale would exceed .85 for the average of the group of individuals who hold the job. For data collected from a single individual, the reliabilities would be as shown in Table 2--which may not be high enough to warrant job changes (or other action steps) on the basis of individual scale scores. (An exception of this state of affairs is the measure of individual growth need strength. This scale is designed to be a measure of an <u>individual</u> characteristic, and was constructed so as to be a highly reliable indicator

of individual needs.)

5. Normative data are still being accumulated on the JDS scales. At this writing, several thousand respondents have taken one or another of the preliminary versions of the JDS. Yet because the instrument itself has been modified on the basis of those responses, a stable normative base has not yet been established. The scale scores reported in Table 4 and Appendix F clearly can be used to make comparisons with scores obtained in other uses of the instrument. But the populations from which these data were obtained were not selected systematically enough for the data to be used to generate formal norms (i.e., in computing standard scores and a scale of percentiles for the JDS measures). As additional data are accumulated from uses of the final version of the JDS, more complete normative information will be provided.

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Footnotes

1. Turner & Lawrence (1965) developed operational measures of six "task attributes" which were predicted to be positively related to worker satisfaction and attendance: (a) variety, (b) required interaction, (c) autonomy, (d) optional interaction, (e) knowledge and skill required, and (f) responsibility. Hackman & Lawler (1971) revised and refined portions of the Turner and Lawrence procedures, and added a number of attitudinal, motivational, and individual difference measures. The instrument used by Hackman and Lawler tapped the following six job dimensions: (a) variety, (b) autonomy, (c) task identity, (d) feedback, (e) friendship opportunities, and (f) dealing with others.

2. A final, "fine-tuning" revision of the JDS was made after the data reported here were collected. Therefore, some of the results reported may be slightly discrepant from those which would be obtained using the instrument in its final form (i.e., as reproduced in Appendix A). When there is any reason to believe that empirical results might be substantially affected by a change which has been made, notation of that possibility is made on the data table.

3. The authors express their great appreciation to members of the Roy W. Walters Associates consulting firm for their assistance in gaining access to the organizations, and to Kenneth Brousseau, Daniel Feldman, and Linda Frank for assistance in administering the instrument and analyzing the data.

4. It would have been preferable to have coded the data as the number of occasions of absence--to compensate for circumstances when an employee was absent for a large number of days because of a single serious illness (or other personal emergency). Unfortunately, the records of some organizations were arranged so that this was not feasible; therefore, to preserve consistency across organizations, all data were coded in terms of the total number of days of absence.

5. The term "scale" is used loosely throughout the remainder of this report to refer to the summary score obtained for each variable measured by the JDS. These scores are obtained by averaging the items relevant to each variable (as specified in the JDS Scoring Key); they are not formal "scales" in the technical sense of the term.

6. Reliabilities were computed by obtaining the median inter-item correlation for all items which are scored on each scale, and then adjusting the median by Spearman-Brown procedures to obtain an estimate of the reliability of the summary scale score.

7. MPS scores can range from 1 to 343; the average (see Table 4) is about 125.

8. One organization is using the instruments for this purpose with special thoroughness. Both employees and supervisors are describing their own jobs on the JDS; and both groups also are describing the job of the other group using the Job Rating Form. Thus, data will be available for both groups showing (a) how group members see their own jobs, and (b) how the other group sees their jobs. These data will be used to initiate discussions aimed at improving both the designs of the supervisory and employee jobs, and the overall quality of supervisor-subordinate relationships.

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APPENDIX A

THE JOB DIAGNOSTIC SURVEY

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JOB DIAGNOSTIC SURVEY

This questionnaire was developed as part of a Yale University study of jobs and how people react to them. The questionnaire helps to determine how jobs can be better designed, by obtaining information about how people react to different kinds of jobs.

On the following pages you will find several different kinds of questions about your job. Sepcific instructions are given at the start of each section. Please read them carefully. It should take no more than 25 minutes to complete the entire questionnaire. Please move through it quickly.

The questions are designed to obtain your perceptions of your job and your reactions to it.

There are no "trick" questions. Your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your cooperation.

For more information about this questionnaire and its use, please contact:

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SECTION ONE

This part of the questionnaire asks you to describe your job, as objectively as you can.

Please do not use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and as objective as you possibly can.

A sample question is given below.

A. To what extent does your job require you to work with mechanical equipment?

1----------2----------3----------4----------5----------(6)----------7

Very little; the job requires almost no contact with mechanical equipment of any kind.

Moderately

Very much; the job requires almost constant work with mechanical equipment.

You are to circle the number which is the most accurate description of your job.

If, for example, your job requires you to work with mechanical equipment a good deal of the time--but also requires some paperwork--you might circle the number six, as was done in the example above.

If you do not understand these instructions, please ask for assistance. If you do understand them, turn the page and begin.

1. To what extent does your job require you to work closely with other people (either "clients," or people in related jobs in your own organization)?

1----------2----------3----------4----------5----------6----------7

Very little; dealing with other people is not at all necessary in doing the job.

Moderately; some dealing with others is necessary.

Very much; dealing with other people is an absolutely essential and crucial part of doing the job.

2. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1----------2----------3----------4----------5----------6----------7

Very little; the job gives me almost no personal "say" about how and when the work is done.

Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.

Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

3. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1----------2----------3----------4----------5----------6----------7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.

My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

4. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1----------2----------3----------4----------5----------6----------7

Very little: the job requires me to do the same routine things over and over again.

Moderate variety

Very much; the job requires me to do many different things, using a number of different skills and talents.

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5. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1----------2----------3----------4----------5----------6----------7

Not very significant; the outcomes of my work are not likely to have important effects on other people.

Moderately significant.

Highly significant; the outcomes of my work can affect other people in very important ways.

6. To what extent do managers or co-workers let you know how well you are doing on your job?

1----------2----------3----------4----------5----------6----------7

Very little; people almost never let me know how well I am doing.

Moderately, sometimes people may give me "feedback;" other times they may not.

Very much; managers or co-workers provide me with almost constant "feedback" about how well I am doing.

7. To what extent does doing the job itself provide you with information about your work performance? That is, does the actual work itself provide clues about how well you are doing--aside from any "feedback" co-workers or supervisors may provide?

1----------2----------3----------4----------5----------6----------7

Very little; the job itself is set up so I could work forever without finding out how well I am doing.

Moderately; sometimes doing the job provides "feedback" to me; sometimes it does not.

Very much; the job is set up so that I get almost constant "feedback" as I work about how well I am doing.

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SECTION TWO

Listed below are a number of statements which could be used to describe a job.

You are to indicate whether each statement is an accurate or an inaccurate description of your job.

Once again, please try to be as objective as you can in deciding how accurately each statement describes your job--regardless of whether you like or dislike your job.

Write a number in the blank beside each statement, based on the following scale:

How accurate is the statement in describing your job?

1	2	3	4	5	6	7
Very Inaccurate	Mostly Inaccurate	Slightly Inaccurate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

_____1. The job requires me to use a number of complex or high-level skills.

_____2. The job requires a lot of cooperative work with other people.

_____3. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end.

_____4. Just doing the work required by the job provides many chances for me to figure out how well I am doing.

_____5. The job is quite simple and repetitive.

_____6. The job can be done adequately by a person working alone--without talking or checking with other people.

_____7. The supervisors and co-workers on this job almost never give me any "feedback" about how well I am doing in my work.

_____8. This job is one where a lot of other people can be affected by how well the work gets done.

_____9. The job denies me any chance to use my personal initiative or judgment in carrying out the work.

____10. Supervisors often let me know how well they think I am performing the job.

____11. The job provides me the chance to completely finish the pieces of work I begin.

____12. The job itself provides very few clues about whether or not I am performing well.

____13. The job gives me considerable opportunity for independence and freedom in how I do the work.

____14. The job itself is not very significant or important in the broader scheme of things.

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SECTION THREE

Now please indicate how you personally feel about your job.

Each of the statements below is something that a person might say about his or her job. You are to indicate your own, personal feelings about your job by marking how much you agree with each of the statements.

Write a number in the blank for each statement, based on this scale:

How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

_____1. It's hard, on this job, for me to care very much about whether or not the work gets done right.

_____2. My opinion of myself goes up when I do this job well.

_____3. Generally speaking, I am very satisfied with this job.

_____4. Most of the things I have to do on this job seem useless or trivial.

_____5. I usually know whether or not my work is satisfactory on this job.

_____6. I feel a great sense of personal satisfaction when I do this job well.

_____7. The work I do on this job is very meaningful to me.

_____8. I feel a very high degree of personal responsibility for the work I do on this job.

_____9. I frequently think of quitting this job.

____10. I feel bad and unhappy when I discover that I have performed poorly on this job.

____11. I often have trouble figuring out whether I'm doing well or poorly on this job.

____12. I feel I should personally take the credit or blame for the results of my work on this job.

____13. I am generally satisfied with the kind of work I do in this job.

____14. My own feelings generally are not affected much one way or the other by how well I do on this job.

____15. Whether or not this job gets done right is clearly my responsibility.

SECTION FOUR

Now please indicate how satisfied you are with each aspect of your job listed below. Once again, write the appropriate number in the blank beside each statement.

How satisfied are you with this aspect of your job?

1	2	3	4	5	6	7
Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Satisfied	Extremely Satisfied

_____1. The amount of job security I have.

_____2. The amount of pay and fringe benefits I receive.

_____3. The amount of personal growth and development I get in doing my job.

_____4. The people I talk to and work with on my job.

_____5. The degree of respect and fair treatment I receive from my boss.

_____6. The feeling of worthwhile accomplishment I get from doing my job.

_____7. The chance to get to know other people while on the job.

_____8. The amount of support and guidance I receive from my supervisor.

_____9. The degree to which I am fairly paid for what I contribute to this organization

____10. The amount of independent thought and action I can exercise in my job.

____11. How secure things look for me in the future in this organization.

____12. The chance to help other people while at work.

____13. The amount of challenge in my job.

____14. The overall quality of the supervision I receive in my work.

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SECTION FIVE

Now please think of the other people in your organization who hold the same job you do. If no one has exactly the same job as you, think of the job which is most similar to yours.

Please think about how accurately each of the statements describes the feelings of those people about the job.

It is quite all right if your answers here are different from when you described your own reactions to the job. Often different people feel quite differently about the same job.

Once again, write a number in the blank for each statement, based on this scale:

How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

_____1. Most people on this job feel a great sense of personal satisfaction when they do the job well.

_____2. Most people on this job are very satisfied with the job.

_____3. Most people on this job feel that the work is useless or trivial.

_____4. Most people on this job feel a great deal of personal responsibility for the work they do.

_____5. Most people on this job have a pretty good idea of how well they are performing their work.

_____6. Most people on this job find the work very meaningful.

_____7. Most people on this job feel that whether or not the job gets done right is clearly their own responsibility.

_____8. People on this job often think of quitting.

_____9. Most people on this job feel bad or unhappy when they find that they have performed the work poorly.

____10. Most people on this job have trouble figuring out whether they are doing a good or a bad job.

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SECTION SIX

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Listed below are a number of characteristics which could be present on any job. People differ about how much they would like to have each one present in their own jobs. We are interested in learning how much you personally would like to have each one present in your job.

Using the scale below, please indicate the degree to which you would like to have each characteristic present in your job.

NOTE: The numbers on this scale are different from those used in previous scales.

4	5	6	7	8	9	10
Would like having this only a moderate amount (or less)			Would like having this very much			Would like having this extremely much

____1. High respect and fair treatment from my supervisor.

____2. Stimulating and challenging work.

____3. Chances to exercise independent thought and action in my job.

____4. Great job security.

____5. Very friendly co-workers.

____6. Opportunities to learn new things from my work.

____7. High salary and good fringe benefits.

____8. Opportunities to be creative and imaginative in my work.

____9. Quick promotions.

___10. Opportunities for personal growth and development in my job.

___11. A sense of worthwhile accomplishment in my work.

SECTION SEVEN

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People differ in the kinds of jobs they would most like to hold. The questions in this section give you a chance to say just what it is about a job that is most important to you.

For each question, two different kinds of jobs are briefly described. You are to indicate which of the jobs you personally would prefer--if you had to make a choice between them.

In answering each question, assume that everything else about the jobs is the same. Pay attention only to the characteristics actually listed.

Two examples are given below.

JOB A				JOB B
A job requiring work with mechanical equipment most of the day				A job requiring work with other people most of the day
1	2	(3)	4	5
Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B

If you like working with people and working with equipment equally well, you would circle the number 3, as has been done in the example.

* * * *

Here is another example. This one asks for a harder choice--between two jobs which both have some undesirable features.

JOB A				JOB B
A job requiring you to expose yourself to considerable physical danger.				A job located 200 miles from your home and family.
1	(2)	3	4	5
Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B

If you would slightly prefer risking physical danger to working far from your home, you would circle number 2, as has been done in the example.

Please ask for assistance if you do not understand exactly how to do these questions.

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	JOB A				JOB B
1.	A job where the pay is very good.				A job where there is considerable opportunity to be creative and innovative.
	1	2	3	4	5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B
2.	A job where you are often required to make important decisions.				A job with many pleasant people to work with.
	1	2	3	4	5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B
3.	A job in which greater responsibility is given to those who do the best work.				A job in which greater responsibility is given to loyal employees who have the most seniority.
	1	2	3	4	5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B
4.	A job in an organization which is in financial trouble--and might have to close down within the year.				A job in which you are not allowed to have any say whatever in how your work is scheduled, or in the procedures to be used in carrying it out.
	1	2	3	4	5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B
5.	A very routine job.				A job where your co-workers are not very friendly.
	1	2	3	4	5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B
6.	A job with a supervisor who is often very critical of you and your work in front of other people.				A job which prevents you from using a number of skills that you worked hard to develop.
	1	2	3	4	5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B	Strongly Prefer B

	JOB A			JOB B
7.	A job with a supervisor who respects you and treats you fairly.			A job which provides constant opportunities for you to learn new and interesting things.
	1	2	3	4 5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B / Strongly Prefer B
8.	A job where there is a real chance you could be laid off.			A job with very little chance to do challenging work.
	1	2	3	4 5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B / Strongly Prefer B
9.	A job in which there is a real chance for you to develop new skills and advance in the organization.			A job which provides lots of vacation time and an excellent fringe benefit package.
	1	2	3	4 5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B / Strongly Prefer B
10.	A job with little freedom and independence to do your work in the way you think best.			A job where the working conditions are poor.
	1	2	3	4 5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B / Strongly Prefer B
11.	A job with very satisfying team-work.			A job which allows you to use your skills and abilities to the fullest extent.
	1	2	3	4 5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B / Strongly Prefer B
12.	A job which offers little or no challenge.			A job which requires you to be completely isolated from co-workers.
	1	2	3	4 5
	Strongly Prefer A	Slightly Prefer A	Neutral	Slightly Prefer B / Strongly Prefer B

SECTION EIGHT

Biographical Background

1. Sex: Male____ Female____

2. Age (check one):

____under 20 ____40-49

____20-29 ____50-59

____30-39 ____60 or over

3. Education (check one):

____Grade School

____Some High School

____High School Degree

____Some Business College or Technical School Experience

____Some College Experience (other than business or technical school)

____Business College or Technical School Degree

____College Degree

____Some Graduate Work

____Master's or higher degree

4. What is your brief job title?_____

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APPENDIX B

SCORING KEY FOR THE JOB DIAGNOSTIC SURVEY

SCORING KEY FOR THE JOB DIAGNOSTIC SURVEY

The Job Diagnostic Survey (JDS) measures several characteristics of jobs, the reactions of the respondents to their jobs, and the growth need strength of the respondents. Each variable measured by the JDS is listed below, along with (a) a one or two sentence description of the variable, and (b) a list of the questionnaire items which are averaged to yield a summary score for the variable.

The JDS is based on a questionnaire originally compiled by Hackman & Lawler (Employee Reactions to Job Characteristics, Journal of Applied Psychology Monograph, 1971, 55(3), 259-286). A complete description of the JDS is provided by Hackman & Oldham (The Job Diagnostic Survey: An Instrument for Diagnosing the Motivational Potential of Jobs, Technical Report No. 4, Department of Administrative Sciences, Yale University, 1974). The theory on which the JDS is based is described by Hackman & Oldham (Motivation Through the Design of Work: Test of a Theory, Technical Report No. 6, Department of Administrative Sciences, Yale University, 1974).

For further information about the instrument and its uses, contact:

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* * *

I. JOB DIMENSIONS: Objective characteristics of the job itself.

A. Skill Variety: The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee.

Average the following items:

Section One #4
Section Two #1
#5 (reversed scoring--i.e., subtract the number entered by the respondent from 8)

B. Task Identity: The degree to which the job requires the completion of a "whole" and identifiable piece of work--i.e., doing a job from beginning to end with a visible outcome.

Average the following items:

Section One #3
Section Two #11
#3 (reversed scoring)

C. Task Significance: The degree to which the job has a substantial impact on the lives or work of other people--whether in the immediate organization or in the external environment.

Average the following items:

Section One: #5
Section Two: #8
#14 (reversed scoring)

D. Autonomy: The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling his work and in determining the procedures to be used in carrying it out.

Average the following items:

Section One: #2
Section Two: #13
#9 (reversed scoring)

E. Feedback from the Job Itself: The degree to which carrying out the work activities required by the job results in the employee obtaining information about the effectiveness of his or her performance.

Average the following items:

Section One: #7
Section Two: #4
#12 (reversed scoring)

F. Feedback from Agents: The degree to which the employee receives information about his or her performance effectiveness from supervisors or from co-workers. (This construct is not a job characteristic per se, and is included only to provide information supplementary to construct (E) above.)

Average the following items:

Section One: #6
Section Two: #10
#7 (reversed scoring)

G. Dealing with Others: The degree to which the job requires the employee to work closely with other people (whether other organization members or organizational "clients").

Average the following items:

Section One: #1
Section Two: #2
#6 (reversed scoring)

II. EXPERIENCED PSYCHOLOGICAL STATES: The psychological impact of the job on the employees. These three psychological states are viewed as mediating between objective job characteristics (listed above) and the affective (e.g., satisfaction, motivation) and behavioral (e.g., performance quality, absenteeism) responses of employees to their work. Each of the three constructs are measured both directly (Section Three) and indirectly, via projective-type items (Section Five).

A. Experienced Meaningfulness of the Work: The degree to which the employee experiences his or her job as one which is generally meaningful, valuable, and worthwhile.

Average the following items:

Section Three: #7
#4 (reversed scoring)
Section Five: #6
#3 (reversed scoring)

B. Experienced Responsibility for the Work: The degree to which the employee feels accountable and responsible for the results of the work he or she does.

Average the following items:

Section Three: #8, #12, #15
#1 (reversed scoring)
Section Five: #4, #7

C. Knowledge of Results: The degree to which the employee knows and understands, on a continuous basis, how effectively he or she is performing his job.

Average the following items:

Section Three: #5
#11 (reversed scoring)
Section Five: #5
#10 (reversed scoring)

III. AFFECTIVE RESPONSES TO THE JOB: The private, affective reactions or feelings an employee gets from working on his job. The first two constructs (general satisfaction and internal work motivation) are measured both directly (Section Three) and indirectly (Section Five).

A. General Satisfaction: An overall measure of the degree to which the employee is satisfied and happy in his or her work. (This measure has been shown to predict both turnover and absenteeism--i.e., the lower the satisfaction, the more the turnover and absenteeism).

Average the following items:

Section Three: #3, #13
#9 (reversed scoring)
Section Five: #2
#8 (reversed scoring)

B. Internal Work Motivation: The degree to which the employee is self-motivated to perform effectively on the job. This measure previously has been shown to relate directly to the quality of the employee's work.

Average the following items:

Section Three: #2, #6, #10
#14 (reverse scoring)
Section Five: #1, #9

C. Specific Satisfactions: These short scales tap several specific aspects of the employee's job satisfaction. They all relate positively to the general satisfaction measure (Construct A above), but the specific satisfaction with "growth" (Scale 5, below) relates most strongly to the characteristics of jobs themselves.

C1. "Pay" satisfaction. Average items #2 and #9 of Section Four.

C2. "Security" satisfaction. Average items #1 and #11 of Section Four.

C3. "Social" satisfaction. Average items #4, #7, and #12 of Section Four.

C4. "Supervisory" satisfaction. Average items #5, #8, and #14 of Section Four.

C5. "Growth" satisfaction. Average items #3, #6, #10, and #13 of Section Four.

IV. INDIVIDUAL GROWTH NEED STRENGTH: These scales tap an individual difference among employees--namely, the degree to which each employee has a strong vs. weak desire to obtain "growth" satisfactions from his or her work. Individuals high on this measure have been shown to respond positively (i.e., with high satisfaction and internal work motivation) to complex, challenging, and "enriched" jobs; individuals low on this measure tend not to find such jobs satisfying or motivating. The questionnaire yields two separate measures of growth need strength, one from Section Six and one from Section Seven.

"Would Like" Format (Section Six)
Average the six items from Section Six listed below. Before averaging, subtract 3 from each item score; this will result in a summary scale ranging from one to seven. The items are:
#2, #3, #6, #8, #10, #11

"Job Choice" Format (Section Seven)
Each item in Section Seven yields a number from 1-5 (i.e., "Strongly prefer A" is scored 1; "Neutral" is scored 3; and "Strongly prefer B" is scored 5. Compute the need strength measure by averaging the twelve items as follows:
#1, #5, #7, #10, #11, #12 (direct scoring)
#2, #3, #4, #6, #8, #9 (reversed scoring)

V. MOTIVATING POTENTIAL SCORE: A score reflecting the potential of a job for eliciting positive internal work motivation on the part of employees (especially those with high desire for growth need satisfactions) is given below.

$$\text{Motivating Potential Score (MPS)} = \left[\frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3}\right] \times \left[\text{Autonomy}\right] \times \left[\text{Feedback from the Job}\right]$$

APPENDIX C

SHORT FORM OF THE JOB DIAGNOSTIC SURVEY

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JOB DIAGNOSTIC SURVEY:

SHORT FORM

This questionnaire was developed as part of a Yale University study of jobs and how people react to them. The questionnaire helps to determine how jobs can be better designed, by obtaining information about how people react to different kinds of jobs.

On the following pages you will find several different kinds of questions about your job. Specific instructions are given at the start of each section. Please read them carefully. It should take no more than 10 minutes to complete the entire questionnaire. Please move through it quickly.

The questions are designed to obtain your perceptions of your job and your reactions to it.

There are no "trick" questions. Your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your cooperation.

For more information about this questionnaire and its use, please contact:

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1. To what extent does your job require you to work closely with other people (either "clients," or people in related jobs in your own organization)?

1----------2----------3----------4----------5----------6----------7

Very little; dealing with other people is not at all necessary in doing the job.

Moderately; some dealing with others is necessary.

Very much; dealing with other people is an absolutely essential and crucial part of doing the job.

2. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1----------2----------3----------4----------5----------6----------7

Very little; the job gives me almost no personal "say" about how and when the work is done.

Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.

Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

3. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1----------2----------3----------4----------5----------6----------7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.

My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

4. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1----------2----------3----------4----------5----------6----------7

Very little; the job requires me to do the same routine things over and over again.

Moderate variety

Very much; the job requires me to do many different things, using a number of different skills and talents.

5. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1----------2----------3----------4----------5----------6----------7

Not very significant; the outcomes of my work are not likely to have important effects on other people.	Moderately significant.	Highly significant; the outcomes of my work can affect other people in very important ways.

6. To what extent do managers or co-workers let you know how well you are doing on your job?

1----------2----------3----------4----------5----------6----------7

Very little; people almost never let me know how well I am doing.	Moderately; sometimes people may give me "feedback;" other times they may not.	Very much; managers or co-workers provide me with almost constant "feedback" about how well I am doing.

7. To what extent does doing the job itself provide you with information about your work performance? That is, does the actual work itself provide clues about how well you are doing--aside from any "feedback" co-workers or supervisors may provide?

1----------2----------3----------4----------5----------6----------7

Very little; the job itself is set up so I could work forever without finding out how well I am doing.	Moderately; sometimes doing the job provides "feedback" to me; sometimes it does not.	Very much; the job is set up so that I get almost constant "feedback" as I work about how well I am doing.

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SECTION TWO

Listed below are a number of statements which could be used to describe a job.

You are to indicate whether each statement is an accurate or an inaccurate description of your job.

Once again, please try to be as objective as you can in deciding how accurately each statement describes your job--regardless of whether you like or dislike your job.

Write a number in the blank beside each statement, based on the following scale:

How accurate is the statement in describing your job?

1	2	3	4	5	6	7
Very Inaccurate	Mostly Inaccurate	Slightly Inaccurate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

_____1. The job requires me to use a number of complex or high-level skills.

_____2. The job requires a lot of cooperative work with other people.

_____3. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end.

_____4. Just doing the work required by the job provides many chances for me to figure out how well I am doing.

_____5. The job is quite simple and repetitive.

_____6. The job can be done adequately by a person working alone--without talking or checking with other people.

_____7. The supervisors and co-workers on this job almost never give me any "feedback" about how well I am doing in my work.

_____8. This job is one where a lot of other people can be affected by how well the work gets done.

_____9. The job denies me any chance to use my personal initiative or judgment in carrying out the work.

____10. Supervisors often let me know how well they think I am performing the job.

____11. The job provides me the chance to completely finish the pieces of work I begin.

____12. The job itself provides very few clues about whether or not I am performing well.

____13. The job gives me considerable opportunity for independence and freedom in how I do the work.

____14. The job itself is not very significant or important in the broader scheme of things.

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SECTION THREE

Now please indicate how you personally feel about your job.

Each of the statements below is something that a person might say about his or her job. You are to indicate your own, personal feelings about your job by marking how much you agree with each of the statements.

Write a number in the blank for each statement, based on this scale:

How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

_____1. My opinion of myself goes up when I do this job well.

_____2. Generally speaking, I am very satisfied with this job.

_____3. I feel a great sense of personal satisfaction when I do this job well.

_____4. I frequently think of quitting this job.

_____5. I feel bad and unhappy when I discover that I have performed poorly on this job.

_____6. I am generally satisfied with the kind of work I do in this job.

_____7. My own feelings generally are not affected much one way or the other by how well I do on this job.

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SECTION FOUR

Now please indicate how satisfied you are with each aspect of your job listed below. Once again, write the appropriate number in the blank beside each statement.

How satisfied are you with this aspect of your job?

1	2	3	4	5	6	7
Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Satisfied	Extremely Satisfied

_____1. The amount of job security I have.

_____2. The amount of pay and fringe benefits I receive.

_____3. The amount of personal growth and development I get in doing my job.

_____4. The people I talk to and work with on my job.

_____5. The degree of respect and fair treatment I receive from my boss.

_____6. The feeling of worthwhile accomplishment I get from doing my job.

_____7. The chance to get to know other people while on the job.

_____8. The amount of support and guidance I receive from my supervisor.

_____9. The degree to which I am fairly paid for what I contribute to this organization

_____10. The amount of independent thought and action I can exercise in my job.

_____11. How secure things look for me in the future in this organization.

_____12. The chance to help other people while at work.

_____13. The amount of challenge in my job.

_____14. The overall quality of the supervision I receive in my work.

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SECTION FIVE

Listed below are a number of characteristics which could be present on any job. People differ about how much they would like to have each one present in their own jobs. We are interested in learning how much you personally would like to have each one present in your job.

Using the scale below, please indicate the degree to which you would like to have each characteristic present in your job.

NOTE: The numbers on this scale are different from those used in previous scales.

4	5	6	7	8	9	10
Would like having this only a moderate amount (or less)			Would like having this very much			Would like having this extremely much

___1. High respect and fair treatment from my supervisor.

___2. Stimulating and challenging work.

___3. Chances to exercise independent thought and action in my job.

___4. Great job security.

___5. Very friendly co-workers.

___6. Opportunities to learn new things from my work.

___7. High salary and good fringe benefits.

___8. Opportunities to be creative and imaginative in my work.

___9. Quick promotions.

___10. Opportunities for personal growth and development in my job.

___11. A sense of worthwhile accomplishment in my work.

APPENDIX D

SCORING KEY FOR THE SHORT FORM OF THE JDS

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May, 1974

SCORING KEY FOR THE SHORT FORM OF THE JOB DIAGNOSTIC SURVEY

The Short Form of the Job Diagnostic Survey (JDS) measures several characteristics of jobs, the reactions of the respondents to their jobs, and the growth need strength of the respondents. Some of the scales tapped by the JDS are not included in the Short Form; others are measured with fewer items. The scales measuring the objective job dimensions are, however, identical with those in the JDS.

Each variable measured by the JDS Short Form is listed below, along with (a) a one or two sentence description of the variable, and (b) a list of the questionnaire items which are averaged to yield a summary score for the variable.

For further information about the instrument and its uses, contact:

Prof. J. Richard Hackman
56 Hillhouse Avenue
Yale University
New Haven, Ct. 06520

or

Prof. Greg R. Oldham
Department of Business Administration
University of Illinois
Urbana, Ill. 61801

* * *

I. JOB DIMENSIONS: Objective characteristics of the job itself.

A. Skill Variety: The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee.

Average the following items:

Section One #4
Section Two #1
#5 (reversed scoring--i.e., subtract the number entered by the respondent from 8)

B. Task Identity: The degree to which the job requires the completion of a "whole" and identifiable piece of work--i.e., doing a job from beginning to end with a visible outcome.

Average the following items:

Section One #3
Section Two #11
#3 (reversed scoring)

C. Task Significance: The degree to which the job has a substantial impact on the lives or work of other people--whether in the immediate organization or in the external environment.

Average the following items:

Section One #5
Section Two #8
#14 (reversed scoring)

D. Autonomy: The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling his work and in determining the procedures to be used in carrying it out.

Average the following items:

Section One #2
Section Two #13
#9 (reversed scoring)

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E. Feedback from the Job Itself: The degree to which carrying out the work activities required by the job results in the employee obtaining information about the effectiveness of his or her performance.

Average the following items:

Section One #7
Section Two #4
#12 (reversed scoring)

F. Feedback from Agents: The degree to which the employee receives information about his or her performance effectiveness from supervisors or from co-workers. (This construct is not a job characteristic per se, and is included only to provide information supplementqary to construct (E) above.)

Average the following items:

Section One #6
Section Two #10
#7 (reversed scoring)

G. Dealing with Others: The degree to which the job requires the employee to work closely with other people (whether other organization members or organizational "clients").

Average the following items:

Section One #1
Section Two #2
#6 (reversed scoring)

II. AFFECTIVE RESPONSES TO THE JOB: The priviate, affective reactions or feelings an employee gets from working on his job.

A. General Satisfaction: An overall measure of the degree to which the employee is satisfied and happy in his or her work.

Average the following items from Section Three: #2
#6
#4 (reversed scoring)

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B. Internal Work Motivation: The degree to which the employee is self-motivated to perform effectively on the job.

Average the following items from Section Three: #1
#3
#5
#7 (reversed scoring)

C. Specific Satisfactions: These short scales tap several specific aspects of the employee's job satisfaction.

C1. "Pay" satisfaction. Average items #2 and #9 of Section Four.
C2. "Security" satisfaction. Average items #1 and #11 of Section Four.
C3. "Social" satisfaction. Average items #4, #7, and #12 of Section Four.
C4. "Supervisory" satisfaction. Average items #5, #8, and #14 of Section Four.
C5. "Growth" satisfaction. Average items #3, #6, #10, and #13 of Section Four.

III. INDIVIDUAL GROWTH NEED STRENGTH: This scale taps the degree to which an employee has strong vs. weak desire to obtain "growth" satisfactions from his or her work.

Average the six items from Section Five listed below. Before averaging, subtract 3 from each item score; this will result in a summary scale ranging from one to seven. The items are:
#2, #3, #6, #8, #10, #11

IV. MOTIVATING POTENTIAL SCORE: A score reflecting the potential of a job for eliciting positive internal work motivation on the part of employees (especially those with high desire for growth need satisfaction) is given below.

$$\text{Motivating Potential Score (MPS)} = \left[\frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3}\right] \times [\text{Autonomy}] \times [\text{Feedback from the Job}]$$

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APPENDIX E

THE JOB RATING FORM

Note: The Job Rating Form is scored identically with Sections One and Two of the JDS and the JDS Short Form.

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JOB DIAGNOSTIC SURVEY

JOB RATING FORM

This questionnaire was developed as part of a Yale University study of jobs and how people react to them. The questionnaire helps to determine how jobs can be better designed, by obtaining information about how people react to different kinds of jobs.

You are asked to rate the characteristics of the following job:

Please keep in mind that the questions refer to the job listed above, and not to your own job.

On the following pages, you will find several different kinds of questions about the job listed above. Specific instructions are given at the start of each section. Please read them carefully. It should take you no more than 10 minutes to complete the entire questionnaire. Please move through it quickly.

For more information about this questionnaire and its use, please contact:

Professor J. Richard Hackman
Department of Administrative Sciences
Yale University
New Haven, Ct. 06520

OR

Professor Greg Oldham
Department of Business Administration
University of Illinois
Urbana, Ill. 61801

SECTION ONE

This part of the questionnaire asks you to describe the job listed on the front page as objectively as you can. Try to make your descriptions as accurate and as objective as you possibly can.

A sample question is given below.

A. To what extent does the job require a person to work with mechanical equipment?

1----------2----------3----------4----------5----------6----------7

Very little; the job requires almost no contact with mechanical equipment of any kind.

Moderately

Very much the job requires almost constant work with mechanical equipment

You are to circle the number which is the most accurate description of the job listed on the front page.

If, for example, the job requires a person to work with mechanical equipment a good deal of the time--but also requires some paperwork--you might circle the number six, as was done in the example above.

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1. To what extent does the job require a person to work closely with other people (either "client," or people in related jobs in the organization)?

1----------2----------3----------4----------5----------6----------7

Very little; dealing with other people is not at all necessary in doing the job.

Moderately; some dealing with others is necessary.

Very much; dealing with other people is an absolutely essential and crucial part of doing the job.

2. How much autonomy is there in the job? That is, to what extent does the job permit a person to decide on his or her own how to go about doing the work?

1----------2----------3----------4----------5----------6----------7

Very little; the job gives a person almost no personal "say" about how and when the work is done.

Moderate autonomy; many things are standardized and not under the control of the person, but he or she can make some decisions about the work.

Very much; the job gives the person almost complete responsibility for deciding how and when the work is done.

3. To what extent does the job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1----------2----------3----------4----------5----------6----------7

The job is only a tiny part of the overall piece of work; the results of the person's activities cannot be seen in the final product or service.

The job is a moderate-sized "chunk" of the overall piece of work; the person's own contribution can be seen in the final outcome.

The job involves doing the whole piece of work, from start to finish; the results of the perso activities are easil seen in the final product or service.

4. How much variety is there in the job? That is, to what extent does the job require a person to do many different things at work, using a variety of his or her skills and talents?

1----------2----------3----------4----------5----------6----------7

Very little; the job requires the person to do the same routine things over and over again.

Moderate variety

Very much; the job requires the person to do many different things, using a numb of different skills and talents.

5. In general, how significant or important is the job? That is, are the results of the person's work likely to significantly affect the lives or well-being of other people?

1----------2----------3----------4----------5----------6----------7

Not at all significant; the outcomes of the work are not likely to affect anyone in any important way.

Moderately significant.

Highly significant; the outcomes of the work can affect other people in very important ways.

6. To what extent do managers or co-workers let the person know how well he or she is doing on the job?

1----------2----------3----------4----------5----------6----------7

Very little; people almost never let the person know how well he or she is doing.

Moderately; sometimes people may give the person "feedback"; other times they may not.

Very much; managers or co-workers provide the person with almost constant "feedback" about how well he or she is doing.

7. To what extent does doing the job itself provide the person with information about his or her work performance? That is, does the actual work itself provide clues about how well the person is doing--aside from any "feedback" co-workers or supervisors may provide?

1----------2----------3----------4----------5----------6----------7

Very little; the job itself is set up so a person could work forever without finding out how well he or she is doing.

Moderately; sometimes doing the job provides "feedback" to the person; sometimes it does not.

Very much; the job is set up so that a person gets almost constant "feedback" as he or she works about how well he or she is doing.

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SECTION TWO

Listed below are a number of statements which could be used to describe a job.

You are to indicate whether each statement is an accurate or an inaccurate description of the job listed on the front pate.

Once again, please try to be as objective as you can in deciding how accurately each statement describes the job--regardless of your own feelings about that job.

Write a number in the blank beside each statement, based on the following scale:

How accurate is the statement in describing the job listed on the front page?

1	2	3	4	5	6	7
Very Inaccurate	Mostly Inaccurate	Slightly Inaccurate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

_____1. The job requires a person to use a number of complex or sophisticated skills.

_____2. The job requires a lot of cooperative work with other people.

_____3. The job is arranged so that a person does not have the chance to do an entire piece of work from beginning to end.

_____4. Just doing the work required by the job provides many chances for a person to figure out how well he or she is doing.

_____5. The job is quite simple and repetitive.

_____6. The job can be done adequately by a person working alone--without talking or checking with other people.

_____7. The supervisors and co-workers on this job almost never give a person any "feedback" about how well he or she is doing the work.

_____8. This job is one where a lot of other people can be affected by how well the work gets done.

_____9. The job denies a person any chance to use his or her personal initiative or discretion in carrying out the work.

_____10. Supervisors often let the person know how well they think he or she is performing the job.

_____11. The job provides a person with the chance to finish completely any work he or she starts.

_____12. The job itself provides very few clues about whether or not the person is performing well.

_____13. The job gives a person considerable opportunity for independence and freedom in how he or she does the work.

_____14. The job itself is not very significant or important in the broader scheme

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SECTION THREE

General Information

1. What is your name? _____

2. What is your own job title? _____

3. What is your age? (Check one)

____under 20	____40 - 49
____20 - 29	____50 - 59
____30 - 39	____60 or over

4. How long have you been in your present position? (Check one)

____0 - 1/2 yr.	____3 - 5 yrs.
____1/2 - 1 yr.	____5 - 10 yrs.
____1 - 2 yrs.	____10 or more yrs.

SECTION FOUR

In the space below (or on the back of the page), please write down any additional information about the job you supervise which you feel might be helpful to us in understanding that job. Thank you for your cooperation.

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APPENDIX F

MEAN JDS SCORES FOR A SAMPLE FROM PUBLIC ORGANIZATIONS

VanMaanen & Katz (1974) administered sections of the JDS to a large sample of public employees, and mean scores for the JDS scales they used are shown in Table F-1.

The sample included four governmental organizations (two cities, one county, and one state). Within each governmental entity, a stratified random sample of public employees was determined. Of the total sample of 3500 employees, 38 percent participated. The stratification was based on eight Equal Employment Opportunity Commission (EEOC) job categories:

1. Administrators: Occupations in which employees set broad policies and exercise or direct overall responsibility for execution of these policies. Includes: department heads, bureau chiefs, division chiefs, directors, wardens, inspectors, superintendents, police and fire chiefs, unit supervisors, and kindred workers.

2. Professionals: Occupations which require specialized and theoretical knowledge usually acquired through college training or through work experience. Includes: doctors, psychologists, registered nurses, personnel and labor relations workers, lawyers, system analysts, accountants, engineers, teachers, employment and vocational rehabilitation counselors, and kindred workers.

3. Technicians: Occupations which require a combination of basic scientific or technical knowledge and manual skill which can be obtained through specialized post-secondary school education or through equivalent on-the-job training. Includes: computer programmers and operators, draftsmen, surveyors, photographers, radio operators, assessors, technicians, practical nurses, and kindred workers.

4. Protective Service: Occupations in which workers are entrusted with public safety, security, and protection from destructive forces. Includes: police officers, fire figuters, guards, bailiffs, detectives, marshals, and kindred workers.

5. Paraprofessionals: Occupations in which workers perform some of the duties of a professional or technician in a supportive role - usually requiring less formal training. Includes: library assistants, research assistants, medical aides, child support workers, welfare service aides, police auxiliary, and kindred workers.

6. Office and Clerical: Occupations in which workers are responsible for communications, recording and retrieval of information, and other paper work required in an office. Includes: bookkeepers, messengers, stenographers, clerks, transcribers, office machine operators, license distributors, and kindred workers.

7. Skilled Craft: Occupations in which workers perform jobs which require special manual skill and a knowledge of the processes involved in the work - acquired through on-the-job training and experience or through apprenticeship or other formal training programs. Includes: mechanics, repairmen, electricians, carpenters, heavy equipment operators, skilled machinists, typesetters, and kindred workers.

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8. Service and Maintenance: Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene, or safety of the general public or which contribute to the upkeep and care of buildings, facilities, or grounds of public property. Includes: chauffeurs, truck and bus drivers, refuse collectors, custodial personnel, gardeners, groundkeepers, construction workers, garage laborers, laundry and dry cleaning operatives, and kindred workers.

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Table F-1

MEANS OF JOB DIMENSIONS BY EQUAL EMPLOYMENT OPPORTUNITY COMMISSION (EEOC) CATEGORIES

JOB DIMENSION	Overall sample	EEOC JOB CATEGORIES: Administrators	Professionals	Technicians	Protective Services	Paraprofessionals	Office, Clerical	Skilled craft	Maintenance, service
Skill variety	5.18	5.98	5.84	5.33	5.83	5.05	4.47	5.06	4.23
Task identity	5.09	5.42	5.30	5.18	4.58	5.11	4.89	5.15	5.12
Task significance	6.06	6.26	6.22	5.94	6.43	6.20	5.90	5.78	5.87
Autonomy	5.04	5.60	5.50	5.20	4.97	4.89	4.75	4.85	4.59
Feedback from job	5.12	5.39	5.25	5.22	4.92	4.83	5.13	5.14	4.92
Feedback from agents	4.01	4.58	4.31	3.80	4.07	4.02	3.90	3.68	3.70
Dealing with others	5.68	6.29	6.05	5.70	6.13	5.95	5.36	5.09	5.14
Experienced meaningfulness of work	5.68	6.08	5.86	5.69	5.95	5.46	5.47	5.50	5.36
Experienced responsibility for work	5.67	6.10	5.89	5.63	5.52	5.52	5.73	5.42	5.34
Knowledge of results	5.40	5.52	5.32	5.46	5.21	5.06	5.53	5.48	5.40
Internal work motivation	5.64	5.96	5.86	5.66	5.68	5.48	5.62	5.42	5.33
Motivating Potential Score (MPS)	140	178	167	149	137	129	124	133	115
N	3059	368	477	380	352	159	582	287	427

Note.--From VanMaanen & Katz, 1974.

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